

SURVEY OF ETHNOMEDICINAL PLANTS OF BHARSAR

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ABSTRACT

Bharsar is situated in the district, Pauri Garhwal, Uttarakhand. The meaning of Bharsar in local dialect is 'Flourished with natural wealth'. Since ancient times, it is famous for its vast biodiversity of temperate vegetation especially for rich diversity of ethnomedicinal plants as well as a rich heritage of traditional medicine system. The present study reveals the status of ethno-medicinal flora and its importance. During the study, it was observed that 89 species of ethnomedicinal plants belonging to 36 families are being used in the folk-medicine system by the indigenous people of this region. For the present study, an intensive and extensive survey was made in Bharsar and adjoining villages for identification of plant species and to explore the traditional usage for curing health ailments. The survey will help us in getting the information about novel applications of commonly found medicinal plants Bharsar region that may help in understanding human environment interactions.

KEYWORDS: Ethnomedicinal, Flourished with Natural Wealth, & Medicinal Plants

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INTRODUCTION

Uttarakhand is a hilly state of India has geographical area of 53,485 sq. km., which accounts for almost 15.5 per cent of the total geographical area of Western Himalayas. The state has altitudinal variations so wide range of climatic zones are available here, which favors the profuse growth of diversified and rich vegetation which also has a number of raw drugs described in Ayurvedic manuscripts (Gangwar *et al*, 2010). The importance of biodiversity as a source of pharmaceutically important substances has been the subject of a number of studies, for example Farnsworth and Soejarto (1985), McNeely (1988), Principe (1991) and Pearce and Puroshothaman (1992), and documentation on ethnobotanical understanding was done by Maikhuri *et al*. (2000), Nautiyal *et al*. (2001). A broad review has described a rich diversity and use of medicinal flora within Uttarakhand (Joshi, 2002), earlier a study was also conducted on the medicinal plant diversity in riparian zone of River Ganga at Haridwar (Gangwar and Joshi, 2006) to understand the use of plant species from Himalayan region to treat a range of ailments. Presently, about 95% raw materials required by pharmaceuticals and drug manufacturers are collected from the forest or wastelands (Kehimker, 2000). Dhar *et al*, (2002) reported that Indian pharmaceutical sector is consuming 280 different medicinal plant species, out of which 175 are from the Himalayan Region. This region supports approximately 1748 plant species of known medicinal property (Samant *et al*, 1998). In India there exists more than one million community based traditional workers and about 600,000 licensed medical practitioners of traditional systems like Ayurveda, Siddha and Unani. These practitioners detect and cure number of diseases

through their own traditional knowledge (Hafeel and Shankar, 1999). The health care system of 80% populace of the developing world is still dependent on their surrounding vegetation/ forests and pastures. They rely on medicinal plants because of their effectiveness and cultural preferences in addition to absence of modern healthcare alternatives (Caniago and Siebert, 1998). Generally plant products are used by traditional healers as traditional medicine usually collected from the forest and hilly remote areas to complete the increasing demand of herbal medicines. From ancient period, major tribal communities of Indian Himalayan Region (IHR) like Bhotias, Boaxas, Tharus, Rajis, Jaunsaries, Shaukas, Kharvar and Mahigiri rely heavily and directly on the endemic vegetation for their daily needs such as food, fodder and medicines (Gangwar *et al.*, 2010). Scarcity of resources of income generation for the people living on the margins, push them to over-exploit natural resources of the region. Over exploitative collection methods cause threat from unscientific harvesting and lead to loss of many valuable medicinal herbs which are already rare in nature (Swe and Win, 2005). Further, we are witnessing a sharp decrease in the biological diversity across the globe and our study area is no exception to the above trend. Medicinal and aromatic plants (MAPs) are regarded as vital constituent for maintaining human health since the dawn of civilization. The therapeutic values of some of these plants are mentioned in the old Indian scriptures. India is well known for the ancient health curing system of *Ayurveda* that has been used for the benefit of human being for more than 5000 years. Household use of medicinal and aromatic plants is as old as human civilization itself but they have been commercialized in current years. At present, there is a growing demand for plant-based medicines, health products, pharmaceuticals, food supplements, cosmetic, *etc.* in the national and international markets (Maiti and Geetha, 2014), resulting in serious threats to many medicinal and aromatic plant. Recently, International Union for Conservation of Nature (IUCN) designed Conservation Assessment and Management Prioritization for the Medicinal Plants (CAMP) methodology revealed that about 112 species in Southern India, 74 species in Northern and Central India and 42 species in high altitude areas of Himalaya are threatened in the wild (Maiti and Geetha, 2014). Studies have also shown that many plant species are in risk of extinction, while some have now become extinct. The major reasons for the depletion of such important natural resource are over exploitation from wild populations and unsustainable management practices, in addition to other factors such as destruction of natural habitats, competition by invasive weed species, climate change, *etc.* The uncontrolled and illegal exploitation of Himalayan medicinal species is an appalling problem in the conservation practice (Bhadula *et al.*, 2002). Bio-industries are causing a serious damage to the wealth due to its over exploitative tendencies to the brink of complete depletion. It is anticipated that more than 90% of the entire herbal raw material is from the wild (Ved and Goraya, 2008). Therefore, sustainable use of the natural resources to ensure their availability for future generations is a challenge at present. The present rates of habitat loss, landscape alteration; extinction of the species, community and even loss of ecosystem, have prompted conservation biologists to devise methods and tools for species protection and preservation. The main aim of this survey is to develop and publish a resource database on the presence of certain ethnomedicinal plants diversity in Bharsar and adjoining areas.

MATERIALS AND METHODS

The present study was undertaken to find out ethnomedicinal plants in Bharsar and its neighboring villages by dividing it into different blocks of study within Bharsar campus *viz.* Medicinal and Aromatic Plants; Floriculture and Land Architecture; Potato Farm, Apple Orchard, Tea section, Organic, Vegetable, Kiwi, Farm of Krishi Vigyan Kendra and Fruit Nursery, and nearby villages *i.e.* Sakanyana, Dulait, Buranshi and Sainji. The said region falls within the Pabao block of district Pauri Garhwal, Uttarakhand, India. In the study area, altitudinal variations range from 1600amsl to 2200amsl. Plants were collected from all the sites of the study area at seedling, premature & mature stages of crop. During this period,

survey with block supervisor, workers/ farmers, agriculturists and horticulturists alongwith botanists were conducted in different blocks to collect information from the locals about the ethano-medicinal plants and their vernacular names, if known. The collected plants were photographed and properly identified with the help of literature available with the University library in form of research articles, monographs, bulletins, magazines etc.

Connotations of Ethnomedicinal Plants

Himalayan herbal medicine and their traditional knowledge is a best example of how poor communities, living in the remote regions, are fighting even incurable diseases for them and even their livestock cured through the traditional methods involving use of ethanomedicinal plants. Medicinal plants are precious natural wealth for new drugs. Plants and plant parts are directly used as medicines by a common community in all over world and have no side effect like allopathic medicines. Production of most of the modern medicines is indirectly based from medicinal plants.

Location and Climate of Study Area

For the present study, area selected includes University campus and adjoining villages that lies at the coordinates of 30.06° N and 78.99° E. Generally, days of Bharsar are fairly warm followed by cool nights in summers. The area receives adequate sunshine hours but growing period is shorter due to long winter. The main features of the Bharsar climate are mild hot summers, higher precipitation during rainy season, prolonged cold winters and occasional snow fall during winter season. While, the climatic conditions of nearby villages have slight inclination toward warmer side due to lower altitude and south facing slopes. The climatic factors such as precipitation, temperature, relative humidity and wind, in association with elevation, slope aspects, drainage, vegetation, *etc.* are responsible for the niche micro-climate of this region.

Methodology

Current study is based on extensive and intensive field surveys made during 2012-15. The different blocks of the main campus of the University and neighboring villages were visited for identification of medicinal plant species collected during the survey and interaction sessions were held at sites to explore for more information regarding the traditional usages of the plants with the help of wiser section of locals. The collected information was corroborated with the existing information available in the literature (Nair and Mohanan, 1998; Brahmavarchaswa, 2003; Kanjilal, 2004) and subject experts.

RESULTS

The present study investigates the medicinal uses of plant species and the associated indigenous knowledge preserved in the local folklore. The data of medicinal plants were collected Bharsar campus and neighboring villages and presented in Table 1. The documentation of collected 89 plant species belonging to 36 families from study sites was done and their medicinal uses against various ailments are presented in Table 2. The families and the species within a family are arranged in alphabetical order. Species names are followed by common name vernacular names, local names, habit of plant, plant parts used, in which ailment they are used, and supporting literature. The reported ethno-medicinal species found highest representation from Asteraceae (17 species), followed by Rosaceae (6 species); Fabaceae, Lamiaceae, Poaceae, Polygonaceae, Solanaceae (4 species each); Amaranthaceae, Apiaceae, Berberidaceae, Convolvulaceae, Hypericaceae, Ranunculaceae (3 species each); Araliaceae, Commelinaceae, Oxalidaceae, Plantaginaceae, Rubiaceae (2 species each); and 18 families were represented by single species each refer Table 2.

DISCUSSIONS

In the present study total 89 ethnomedicinal plant species were found to be in use for curing several kinds of human or livestock ailments which represents a diverse array of traditional knowledge which is an unambiguous illustration of survival of resource poor communities on meager earnings and still living an healthy life and productive life without putting more than required pressure on natural resources. The indigenous traditional knowledge of medicinal plants and therapies of various local communities has been transmitted orally for centuries is becoming dead, due to changes in traditional culture and introduction of modern technologies. Therefore, it is need of the hour that such worthy traditional knowledge available at local level needed to be properly documented and disseminated among all. The present study is an attempt to collect/ explore, preserve and express the diversity and richness of the traditional knowledge database available among the rural folks. The sighting of 89 diverse plant species and their usage among the locals amply demonstrate the worthiness of such studies.

CONCLUSIONS

Despite the development of rural health services, villagers still use medicinal herbs to a large extent for treatment of common ailment like cough, headache, body ache, constipation, cuts etc. Uses of medicinal plants in the indigenous medicines are well known to a common villager. Increased demand of herbal medicines at global level has stimulated the pharmaceutical industries to exploit the freely available natural wealth through unaware rural youths. Unscientific and unsustainable harvesting of medicinal flora from the wild putting a heavy toll over the nature to an extent where regeneration is not possible in natural conditions. Further herbal medicines are easily available and economically viable alternate medicinal intervention that has no side effects thereby, mainstay of rural health. The above findings emphasize over the conservation of medicinal flora available in the remote Himalayan regions along with traditional knowledge base.

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APPENDICES

Table 1: List of Ethnomedicinal Plants Their Habits, Uses and Supporting Literature from the Study Area

Family and Name of Plant	Common Name	Local Name/ Vernacular Name	Habit	Part(s) Used	Ailment Used For	Early Reported Literature
Amaranthaceae (3)						
<i>Achyranthes aspera</i> L.	Snake tail/ Prickly chaff flower/ Devil's horse whip	Latjeera/ Chirchita/ Chirchra	Erect, sparingly branched annual or biennial herb	Roots and leaves	Malarial fever, muscular sprains and facilitating delivery, epilepsy	Tiwari <i>et al.</i> (2010), Ballabha <i>et al.</i> (2013), Singh (2014), Sharma <i>et al.</i> (2013), Rawat and Vashistha (2011)
				Plant	Plant is used in cough, boils, skin problem, ulcer and dysentery.	Parihaar <i>et al.</i> (2014)
<i>Achyranthes bidentata</i> Blume	Ox knee	Latjira/ Putkanda	Erect or straggling herb, 0.6 – 2 m, perennial herb	Stem	The decoction of herb is taken internally to treat back pains, urine in the blood, menstrual pain, bleeding etc	Kapoti <i>et al.</i> (2014)
<i>Amaranthus viridis</i> L.	Slender pigweed	Chaulai	Erect glabrous much branched annual broad- leaved herb	Leaves	Emollient, snake and scorpion bite	Ghani <i>et al.</i> (2012)
Apiaceae (3)						
<i>Ammi visnaga</i> (L.) Lam.	Honey plant/ Visnaga/ pick Tooth weed/ Khella	Honey plant	Annual or biennial herb growing from a taproot erect to a maximum height near 80 cm.	Fruit	The fruits are used in the treatment of mild anginal symptoms. As supportive treatment of mild obstruction of the respiratory tract in asthma, bronchial asthma or spastic bronchitis, and postoperative treatment of conditions associated with the presence of urinary calculi. Treatment of gastrointestinal cramps and painful menstruation. Internally as an emmenagogue to regulate	Al-Snafi AE. (2013)

					menstruation, as a diuretic, and for treatment of vertigo, diabetes and kidney stones.	
<i>Centella asiatica</i> (L.) Urb.	Asiatic pennywort/ Mandukparni	Asiatic pennywort/ Brahmi	Prostrate/ trailing perennial herb	Leaf	Leaf is used in hair fall control and increasing power of memory. Brain enhancers.	Kaploti <i>et al.</i> (2014)
				Leaf	Aqueous extract of herb is given ½ teaspoonfuls twice a day, early in morning and at night after meals for 14 to 28 days to treat stomachache, as a blood purifier, tonic, in fever and in leucorrhoea. Leaves are dried in shade, ground and powdered, approximately ½ teaspoonfuls given thrice a day for a 30-90 days to treat mental disorders. Leaf paste applied on skin ailments.	Dangwal <i>et al.</i> (2010)
<i>Heracleum candicans</i> Wall. Ex D.C.	White Hogweed/ Leaf Cow parsnip	Heracleum	Biennial and perennial herbs	Whole herb	Useful for healing of wounds and the paste of the root is applied to counteract snake bite. The paste also mixed with sour lassi and given to the patient.	Thakur <i>et al.</i> (2014)
Araliaceae (2)						
<i>Hedera helix</i> L.	Common ivy/ English ivy/ European ivy/ Just ivy	Hedera	Clinging evergreen vine, Familiar sight in gardens, waste spaces, on house walls, tree trunks, growing to 20 – 30 m high.	Fruits, Leaves, Whole Plant	Leaves and berries taken orally as an expectorant to treat cough and bronchitis. Also, cultivated as an ornamental plant.	Sharma and Sood (2013)
		Dakari	Evergreen vine	Fruits, Leaves, Whole Plant	Leaves and berries taken orally as an expectorant to treat cough and bronchitis and cultivated as an ornamental plant.	Rana and Masoodi (2014)
<i>Hedera nepalensis</i> K. Koch	Himalayan Ivy/ Himalya-Efeu, Chang Chun teng	Hedera/ Prewathe/ zeley	Perennial Ivy plant found at altitudes of about 1000-3000 m. Pants grows up to 30 m in height. Climber	Leaves and fruits	Leaves extract used for curing diabetes, abdominal pain and diuretic. Fruits are purgative	Razzaq <i>et al.</i> (2015)
		Arambal	Perennial Ivy plant found at altitudes of about 1000-3000 m. Pants grows up to 30 m in height. Climber	Leaves	The leaf extract are stimulant and externally used in sores, ulcer, and inflammations.	Parihaar <i>et al.</i> (2014)
Asteraceae (17)						
<i>Ageratum conyzoides</i> L.	Bill goat weed/ Chickweed/ Goat weed/ White weed	Gamlwa/ Jungli Pudina/ Visadodi/ Semandula/ Gha buti/ Bhakumbar/ Buti	Erect branched annual broad leaved herb	Flower, leaves and roots	Purgative, febrifuge, against colic, skin ulcers, as an antientalgic and antipyretic, for cuts as a wound dressing	Tailor <i>et al.</i> (2012)
		Gamlwa	Erect branched annual broad leaved herb	Leaf	Leaf juice is applied to stop bleeding.	Kaploti <i>et al.</i> (2014)

			Erect branched annual broad leaved herb	Leaves , Roots	Leaf paste used for checking bleeding from wounds.	Sharma and Sood (2013)
		Gamulva	Erect branched annual broad leaved herb	Leaves	The leaf juice is used in the coagulation of blood, healing wounds and diarrhoea.	Parihaar <i>et al.</i> (2014)
<i>Artemisia annua</i> L.	Sweet wormwood/ Annual wormwood	Artemisia/ Pati	Annual broad-leaved herb. Naturally grows from 30 to 100 cm tall	Whole herb at full bloom stage	Important anti-malarial, essential oil used in cosmetics medicinal	Smitha <i>et al.</i> (2014)
<i>Artemisia nilagirica</i> (Clarke) Pamp	Indian wormwood/ Fleabane/ Mugwort	Nagdonga/ Davana	Aromatic shrub, 1-2 m high, yellow or dark red small flowers, grows throughout India in hills up to 2400 m elevation.	Leaf	Used against intestinal worms	Nazir <i>et al.</i> (2010)
		Pati		Leaf	Leaves and flowering tops are used in asthma, bronchitis, nervous affection and skin disease.	Kapoti <i>et al.</i> (2014)
		Pati		Leaves	The leaf paste is used in blood coagulation, inflammation, and in skin disease. Leaf juice is used in asthma, bronchitis, and anaemia.	Parihaar <i>et al.</i> (2014)
<i>Bellis perennis</i> L.	Common daisy/ English daisy/ Lawn daisy	English daioxasy	English daisy is a low-growing perennial	Flowers and pedicels	Used as a diuretic, antispasmodic, anti inflammatory, astringent, expectorant, antipyretic, vulnerary, ophthalmic and homeostatic in traditional medicine.	Prakash <i>et al.</i> (2011)
<i>Bidens bipinnata</i> L.	Spanishneedles	Spanishneedles	Annual broad-leaved herb	Leaf	Used as milk promoter during breast feeding. Leaf past is applied on skin diseases. Galactagogue; Dermatological problems; Orthopedic; Vermicide	Chandra <i>et al.</i> (2013)
			Herb	Leaves	Leprosy and juice in cuts.	Nazir <i>et al.</i> (2010)
<i>Conyza canadensis</i> (L.) Cronquist	Horse weed/ Canadian horse weed/ Butter weed	Horse weed/ Paleet	<i>Conyza Canadensis</i> (formerly <i>Erigeron Canadensis</i> L.) is an annual plant	Whole plant	Used as homeostatic, astringent, diuretic. It is used to treat dysentery and diarrhea.	Ahmad <i>et al.</i> (2006)
	Dead weed		Herb	Whole plant	Diarrhoea, dropsy, skin disease, sore throat	Mitchell and Ahmad (2006)
<i>Eclipta alba</i> Hassak. (Syn. <i>Eclipta prostrata</i> L.)	False daisy	Bhringraj/ Bhangra/ Mochkand	Annual broad-leaved herb with smell in leaves	Whole plant	Liver complaints, asthma, fever, constipation, bronchitis, through pain, conjunctivitis, antiseptic jaundice, itching, gastric complaints, promote hair growth, scorpion sting, mala toothache, wounds, swelling used in the preparation of Bhringraj tel	Adhikari <i>et al.</i> (2010)
<i>Eupatorium adenophorum</i> Sprengel	Kalabansa/ Croftonweed	Kalabansa	Annual broad-leaved herb	Leaf	Cuts/wounds and skin diseases Leaf paste is applied externally on wounds, to stop bleeding on open sores and injured portion, pimples and blisters.	Pant and Sammant (2010), Singh and Rawat (2011), Ballabha <i>et al.</i> (2013), Semwal <i>et al.</i> (2010)
				Leaf	Leaf juice is used in blood clotting.	Kapoti <i>et al.</i> (2014)

<i>Gnaphalium hypoleucum</i> DC.	Gnaphalium	Gnaphalium	Annual herb up to 60 cm high, often branched from the base, densely white-woolly.	Plant extract and juice	Applied on cuts and wounds and juice is believed to increase in lactation.	Pala <i>et al.</i> (2010)
<i>Parthenium hysterophorus</i> L.	Gajarghas/ Chatakchandani/ Congress grass/ Carrot weed	Congress grass/ Chatak chandni	Annual much branched broad leaved herb	Shoot parts	<i>P. hysterophorus</i> confers many health benefits, viz remedy for skin inflammation, rheumatic pain, diarrhoea, urinary tract infections, dysentery, malaria, psoriasis, allergies, asthma, tinnitus, dizziness, nausea, vomiting, neuralgia. This plant traditionally used for the treatment of fevers, migraine headaches, rheumatoid arthritis, stomachaches, toothaches, insect bites, infertility, and problems with menstruation and labor during childbirth.	Roy and Shaik (2013)
<i>Sonchus asper</i> (L.) Hill	Prickly sow-thistle/ Rough milk thistle/ Spiny sowthistle/ Spiny-leaved sow thistle	Prickly sow-thistle	Annual or biennial herb sometimes reaching a height of 200 cm with spiny leaves and yellow flowers resembling those of the dandelion.	Whole plant	Used in blood purification, hepatitis and on wounds.	Nazir <i>et al.</i> (2010)
-				Latex	Latex applied for quick healing of wounds, cuts and considered antiseptic.	Sharma and Sood (2013)
		Karnfool	Herb	Root	Root decoction given in stomach problem.	Kapoti <i>et al.</i> (2014)
<i>Tagetes minuta</i> L.	Wild Marigold	Jungali Genda/ Genda/ Koo-basya	Annual broad-leaved herb	Leaf	The paste of leaves applied twice a day for a week on burns. Leaves powder used as an insect repellent.	Dangwal <i>et al.</i> (2010)
<i>Taraxacum officinale</i> Wiggers.	Dandelion, Common tansy	Dandelion/ Dudya ghas	Annual broad-leaved herb	Root	Diuretic, cholagogue, pancreatic and bile duct stimulant	Sharma <i>et al.</i> (2013)
				Root, Leaf	Root and leaves dried in shade, powdered given 2.5 to 5 g. twice a day for 30-45 days in the treatment of migraine, cardiac complaints, Jaundice, abdominal complaints, and as blood purifier. Paste of root and leaves applied externally on wounds twice a day for a week as an antiseptic.	Dangwal <i>et al.</i> (2010)
<i>Tridax procumbens</i> L.	Tridax daisy/ Coat buttons	Ghamra	Perennial procumbent hispid herb	Leaf (Leaf juice)	Commonly used in Indian traditional medicine as anticoagulant, hair tonic, antifungal and insect repellent, in bronchial catarrh, diarrhoea, dysentery, and wound healing	Udupa <i>et al.</i> (1991)
<i>Anaphalis triplinervis</i> (Sims) C.B. Clarke	Triple-veined pearly everlasting	Anaphalis/ Yeepwoosh	Herbaceous perennial plant. Native to the Himalayas (Tibet, Afghanistan, North India, Nepal, Bhutan). Grey-green felted leaves produce	Leaves, flowers	Dried flowers and leaves are used as herbal tea for flu, fever and nausea. Dried flowers are burnt to produce smoke that is considered useful for eye infections and diseases.	Khan <i>et al.</i> (2011)

			sprays of small white flower heads. Height 45-60 cm.			
<i>Anaphalis contorta</i> D. Don	Eared-Leaf Pearly Everlasting	Anaphalis	Small herb with erect or prostrate stems, 15-40 cm long.	Leaves	Paste applied on cuts, wound, boils and insect repellent	Nazir <i>et al.</i> (2010)
<i>Xanthium pennsylvanicum</i> (Syn. <i>Xanthium strumarium</i> L.)	Common Cocklebur, Burweed	Cocklebur	Coarse annual broad-leaved herb with spines and thorny fruits	Fruit, Seed, Leaves, Root	Febrifuge, malaria, headache eye diseases, cancer wound piles, rheumatism, scrofula, ringworm, Urinary complaint ulcer, toothache, Traditional Medicines for Sleep	Adhikari <i>et al.</i> (2010)
Berberidaceae (3)						
<i>Berberis aristata</i> Roxb. ex DC.	Kilmoda/ Indian Barberry/ Tree Turmeric	Kilmori/ Kilmoda/ Kilmora	Shrub, Perennial	Roots	Gastric diseases, diabetes and eye infection	Singh and Rawat (2011), Ballabha <i>et al.</i> (2013), Singh (2014), Phondani <i>et al.</i> (2010)
		Kilmori	Shrub, Perennial	Root	Decoction of root eases Diarrhoea disease.	Kapkoti <i>et al.</i> (2014)
<i>Berberis asiatica</i> Roxb. ex DC.	Tree Turmeric	Kilmora	Shrubs	Root	Used in Ophthalmia	Nazir <i>et al.</i> (2010)
		Kilmori	Shrub	Roots	Roots are used in ulcer, stomach-ache, toothache, asthma and earache.	Parihaar <i>et al.</i> (2014)
<i>Berberis lyceum</i> Royle.	Kilmoda/ Indian Barberry/ Tree Turmeric	Kware/ Zeyar largai	Shrub, Perennial	Roots and fruits	Fruits are edible. Root and stem bark is tonic, carminative and blood purifier. Root is antiseptic, tied upon the fractured bones and utilized for healing of internal and external wounds, arthritis and ulcer and in delivery cases.	Razzaq <i>et al.</i> (2015)
Cruciferae (1)						
<i>Lepidium rudemale</i> L.	Narrow-leaf pepper wort/ roadside pepper weed/ peppergrass	Narrow leaf pepper wort/ Ban Halam	Annual herb	Arial part	Used to cure cough, asthma, piles, depurative, skin diseases and rheumatism by the tribal inhabitants of central Himalaya.	Agarwal and Verma (2011)
		Halim	Annual herb	Seed	Seed paste is used in the treatment of external abrasions.	Parihaar <i>et al.</i> (2014)
Cannabaceae (1)						
<i>Cannabis sativa</i> L.	Hemp/ Marijuana	Bhang	Erect annual or perennial broad-leaved undershrub	Leaf, Bark, Seed, Flower, Fruit	Hallucinating Paste of leaf is applied on wisdom tooth.	Kumari <i>et al.</i> (2011)
	Ganja		Herb		Asthma, vision improvement, fever, colds	Mitchell and Ahmad (2006)
Caryophyllaceae (1)						
<i>Stellaria media</i> (L.) Vill.	Common chickweed/ Chikenwort/ Craches/ Maruns/ Winter weed	Chickweed/ Khokhua	Cool season annual plant. Flowers are small and white	Leaf, flower	Antirheumatic, anti-inflammatory	Sharma <i>et al.</i> (2013)
Chenopodiaceae (1)						
<i>Chenopodium album</i> L.	Common lambsquarter/ Dogstoothgrass/ Fathen	Bathua	Erect annual broad leaved herb	Seed, Leaves	It is green vegetable used in bladder stone.	Kumari <i>et al.</i> (2011)
				Seed	Stimulant, diuretic, carminative, antispasmodic	Sharma <i>et al.</i> (2013)
				Whole	Laxative and Anthelmintic	Ghani <i>et al.</i> (2012)

Commelinaceae (2)						
<i>Commelina benghalensis</i> L.	Tropical spiderwort/ Wandering Jaw	Kena/ Kankaua/ Kanchara	Fleshy branched annual broad leaved grass herb	Latex, leaves roots	Leaf paste, Latex and the powder of root are used for the treatment of leprosy.	Johnsy and Kaviyarasan (2015)
		Pitli ghass	Fleshy branched annual broad leaved grass herb	Plant	The plant is used in fever, diarrhoea, leprosy, or in dysentery.	Parihaar <i>et al.</i> (2014)
	Water grass		Herb		Thrush, burns, sore throats, strangury	Mitchell and Ahmad (2006)
<i>Commelina diffusa</i> Burm.	Climbing dayflower, spreading dayflower	Kena/ Kona simolu	Annual broad-leaved grass herb	Whole plant	Applied on boils	Das and Bordoloi (2016)
	Water grass		Herb	Whole plant	Cold, malaria, eye lotion, gonorrhea	Mitchell and Ahmad (2006)
Convolvulaceae (3)						
<i>Cuscuta reflexa</i> Roxb.	Giant Dodder	Amarbel	Parasitic weed with yellow wiry twining stem	The whole plant is ground, filtered, and drops of the resulting liquid applied.	Ear disease	Phondani <i>et al.</i> (2010)
				whole plant	Hepatic, laxative, carminative, urinary, spleen and liver disorders	Sharma <i>et al.</i> (2013)
<i>Ipomoea cairica</i> (L.) Sweet	Mile-a-minute vine/ Cairo morning glory/ Railroad creeper	Railroad creeper	Vining perennial has palmate leaves and large, showy white to lavender flowers.	Whole plant	The plants are medicinally used as an antioxidant, anti-inflammatory, antiviral and highly potent against malaria	Choudhury <i>et al.</i> (2015)
<i>Ipomoea purpurea</i> (L.) Roth.	Tall Morning-glory	Neikalmi	Tall morningglory is a summer annual broadleaf vine.	Plant	The plant is anti syphilitic and emetic.	Parihaar <i>et al.</i> (2014)
Cucurbitaceae (1)						
<i>Diplocyclos palmatus</i> (L.) C. Jeffrey	Native Bryony/ Striped cucumber	Shivlingi/ Native Bryony/ Striped cucumber	Vine in the Cucurbitaceae family	Fruits	Fruits having important use in the area of reproductive medicine (female infertility, aphrodisiac, tonic, leucorrhoea etc.).	Vadnere <i>et al.</i> (2013)
Cyperaceae (1)						
<i>Cyperus rotundus</i> L.	Purple nutsedge/ nutgrass/ cocoglass	Motha or mutha	Perennial erect, glabrous herb with purple inflorescence. Contains rhizomes	Rhizome part	Traditionally used for various purposes including as an antidiarrhoeal, antidiabetic, antipyretic, anti-inflammatory, antimalarial and for treatment of stomach and bowel disorders.	Sharma and Singh (2011)
		Motha or mutha	Perennial erect herb	Tuber	Anthelmintic, stimulant, diuretic	Ghani <i>et al.</i> (2012)
		Muthia	Perennial erect herb	Root tuber	Root tubers are used as carminative	Parihaar <i>et al.</i> (2014)
Fabaceae (4)						
<i>Lathyrus aphaca</i> L.	Yellow pea, yellow vetchling	Jangli phalli	Annual broad-leaved herb	Seeds and flowers	Seeds used as Narcotic and flowers as resolvent	Ghani <i>et al.</i> (2012)
<i>Melilotus indica</i> All.	Yellow sweetclover	Pili senji	Annual broad leaved herb	Leaves	Leaves are used for constipation and indigestion.	Chaudhari (2013)
<i>Trifolium repens</i> L.	White clover, Dutch clover	Tinpatia/ Satphal	Annual broad leaved herb	Leaves	Leaves are used as astringent and as ointment in gout.	Parihaar <i>et al.</i> (2014)
<i>Vicia sativa</i> L.	Common vetch	Akra	Annual broad leaved herb	Seeds	Seed flour: cataplasms	Nouria <i>et al.</i> (2013)

Fumariaceae (1)						
<i>Fumaria indica</i> Pugsley [Syn. <i>Fumaria parviflora</i> (L.) Wt. & Arn.]	Fumitory/ Bansoya	Bansoya	Annual broad-leaved prostrate herb	Whole plant	Diuretic, Diaphoretic E.M.U: 5-10 ml. juice of Coriander sativum L and <i>Fumaria indica</i> is administered orally in fever. Headache, fever Leaf paste is useful in headache and fever.	Kumari <i>et al.</i> (2011) Bisht <i>et al</i> (2012)
				Whole Plant	Paste of the plant applied for suppuration of boils and healing cut injuries.	Sharma and Sood (2013)
Hypericaceae (3)						
<i>Hypericum perforatum</i> L.	St. John's Wort/ Klamath weed/ Hypericum/ Goat weed	Balsana/ Basant/ Dendhi	Herbaceous perennial plant widely distributed in temperate regions	Leaves , stem	Treatment for depression in humans	Nathan (2001)
<i>Hypericum cernuum</i> Roxb.	Hypericum	Balsana	Shrub	Seed	Seeds used for flavoring curries. Seed oil massaged for quick relief of rheumatism.	Sharma and Sood (2013)
<i>Hypericum oblongifolium</i> Choisy	Hypericum	Balsana	Shrub	Leaves , stem	Decoction of leaves and stem given to facilitate delivery.	Pala <i>et al.</i> (2010)
Lamiaceae (4)						
<i>Ajuga bracteosa</i> Wall ex. Benth	Neel Khanti/ Karvi Booti	Bugleweed/ ground pine/ carpet bugle	<i>Ajuga bracteosa</i> is an evergreen perennial growing	The decoction of whole plant	<ul style="list-style-type: none"> Rheumatism (about 2-3 teaspoonful) is administered orally thrice a day in treatment of rheumatism) The juice of the leaves is used against 'Khasra' and other disease of children. Juice is given to women in gonorrhea and also used in intermittent fever. Fresh juice of leaves is used as a wound healer. After cleaning the wound with hot water, 5-8 drops of juice applied externally on the wound or some time thick paste also applied on the wound and tightened with a clean thin piece of cloth at every third day. Leaves paste cooked in mustard oil is also applied on head to get relief from chronic headache. 	Kumari <i>et al.</i> (2011)
			Herb	Leaf	Malarial fever, tonic, astringent and febrifuge	Nazir <i>et al.</i> (2010)
<i>Origanum vulgare</i> L.	Oregano, Wild marjoram	Origanum	Perennial herb, growing from 20-80 cm tall. The flowers are purple.	Plant extract	Used in bronchitis, colic and diarrhea.	Nazir <i>et al.</i> (2010)
<i>Prunella vulgaris</i> L.	Common self-heal/ heal-all	Common self-heal/ heal-all	Herbaceous plant and grows 5-30 cm high with creeping.	Extract of the whole plant	Gastroenteritis	Bisht <i>et al</i> (2012)
		Phulari	Herb	Plant	Fresh leaves are used in the jaundice, piles, boils, skin irritation, headaches or in hypertension.	Parihaar <i>et al.</i> (2014)
<i>Vitex negundo</i> L.	Chinese chaste tree/ Fine-leaved chaste tree/	Chinese chaste tree/ Fine-leaved	Large aromatic shrub with quadrangular,	Whole plant	Amenorrhea, dysmenorrheal, Urticaria, cellulitis, abscesses,	Rana and Rana (2014) Rana <i>et al</i> (2004)

	Horseshoe vitex	chaste tree/ Horseshoe vitex	densely whitish, tomentose branchlets. Growing from 2 to 8 m in height.		carbuncles, eczema, Jaundice, Migraine	
		Bannanh	Shrub, wild	Whole plant	Fresh roots are used as bandage to relieve pain of chest and back. Plant shoots are used as toothbrush. Leaves are aromatic, febrifuge, diuretic and anthelmintic. Fresh leaves are also used in gum diseases. Leaves are smoked to relieve headache. Flowers are astringent and tonic.	Hussain <i>et al.</i> (2013)
Oxalidaceae (2)						
<i>Oxalis corniculata</i> L.	Creeping woodsorrel/ Indian sorrel/ sleeping beauty/ yellow oxalis/ yellow wood sorrel	Khatimithi/ Tin patia/ bhilmoru, Chukra	Perennial prostrate herb	Juice of the whole plant; leaf paste	<ul style="list-style-type: none"> • Antiviral; Dermatological Problems; Conjunctivitis, insect bites, appetite, diarrhoea, dysentery epilepsy, piles, fever, jaundice skin diseases, stomachache, • Juice of herb is used as eye drops in cataract. Paste of top shoots along with black pepper is applied to boil, abscesses, wound and weeping eczema. Leaves and roots are treat dysentery and diarrhea. • Root is washed and given shape of a ring. This ring along with vermilion (Sindur) and Sesamum oil is rubbed on a brass plate. An 'Anjan' is thus prepared which is applied on eyes in conjunctivitis. 	Kala (2005), Chandra <i>et al.</i> (2013), Kapkoti <i>et al.</i> (2014), Adhikari <i>et al.</i> (2010), Kumari <i>et al.</i> (2011),
				Leaf	Boiled with butter milk is a home remedy for indigestion and diarrhoea in children	Sharma <i>et al.</i> (2013)
				Leaf	Leaf paste is used in skin disease.	Kapkoti <i>et al.</i> (2014)
				Plant	The plants used in skin infection, diarrhoea, anaemia, loads or in dysentery.	Parihaar <i>et al.</i> (2014)
<i>Oxalis latifolia</i> Kunth.	Simple perennial woodsorrel	Khati-Mithi/ Broadleaf Woodsorrel/ Tinpatia	Simple perennial broad- leaved herb	Whole plant	Astringent, Antiseptic and anemia	Sharmila <i>et al.</i> (2014)
Papaveraceae (1)						
<i>Argemone mexicana</i> L.	Mexican pricklepoppy/ Mexican Poppy	Satyanashi	Erect branched prickly broad leaved annual herb (Yellow flower)	Leaf, root, seed powder , flower powder , whole plant	<i>Argemone mexicana</i> is used in different parts of the world for treatment of skin diseases (including tumors and warts), inflammation, arthritis, jaundice, leprosy, microbial infections, and malaria, Appetizer, tooth pain, gonorrhea, syphilis, genital warts, Dengue fever, viral disease, seed oil is applied externally on affected parts of rheumatism	Gairola <i>et al.</i> , (2013), Sharma <i>et al.</i> , (2012), Sharma <i>et al.</i> (2014)

Plantaginaceae (2)						
<i>Plantago lanceolata</i> L.	English plantain/ Narrow leaf plantain/ Rib leaf/ Lamb's tongue/ Ribwort plantain	Plantain	Annual broad- leaved grass herb	Leaves , Root, Seed	About 5-10 g seeds are used by the local people orally once a day with one small glass of hot water for the treatment of amoebic dysentery, blood dysentery and chronic diarrhea.	Kumari <i>et al.</i> (2011)
			Herb	Leaf	Leaves are astringent and refrigerant and effective against dysentery and mouth diseases	Razzaq <i>et al.</i> (2015)
<i>Plantago major</i> L.	Broadleaf plantain/ greater plantain	Broadleaf plantain/ greater plantain	Annual broad leaved herb with a rosette of leaves	Leaves , inflo- rescence and seeds	Leaves are refrigerant and astringent. Seeds are tonic and used for cooling effect. The seeds are mixed with honey and used in constipation. The inflorescence of plant is utilized for measles in children	Razzaq <i>et al.</i> (2015)
Plumbaginaceae (1)						
<i>Plumbago zeylanica</i> L.	Chitrakmool/ Ceylon Leadwort/ Doctor bush/ Wild leadwort	Chitrakmool/ Chitrak	Evergreen shrub that reaches about 6' in nature. Flowers are white	Roots	Dyspepsia, piles, skin disease, Decoction of root is administered orally in Abortion.	Rawat and Vashistha (2011) Kumari <i>et al.</i> (2011)
Poaceae (4)						
<i>Avena sativa</i> L.	Wild oat/ spring wild oat	Jungli Jai	Erect annual grass herb	Grain	Oatmeal-Oatmeal is used in medicine as an emollient, refreshing and slightly nutritious.	Nouria <i>et al.</i> (2013)
<i>Cynodon dactylon</i> (L.) Pers.	Bermudagrass/ Devilsgrass/ Stargrass	Doob	Perennial hardy branched usually prostrate herb	The plant paste,	The plant paste is applied externally in rheumatism.	Sharma <i>et al.</i> (2011)
				Whole plant extract	Whole plant extract is taken orally in dysentery, nose bleeding and anemia.	Sharma <i>et al.</i> (2013)
				Roots	Diuretic and laxative	Ghani <i>et al.</i> (2012)
				Plant	The leaf juice is used to stop nasal bleeding, anaemia and in dysentery.	Parihaar <i>et al.</i> (2014)
<i>Eleusine indica</i> (L.) Gaertn.	Goosegrass/ Wiregrass	Jharua	Erect tufted annual grass	Plant	Plants are used in the stomach problem and retention of urine.	Parihaar <i>et al.</i> (2014)
<i>Imperata cylindrica</i> (L.) P. Beauv.	Cogongrass/ Alangalang/ Thatchgrass	Imperata/ Siru	Perennial grass	Rhizo- me	Piles, diarrhea, dysentery, gonorrhea, sedative	Rai (2003)
Polygonaceae (4)						
<i>Polygonum plebejum</i> R. Br.	Indian knotweed	Indian knotweed	Prostrate annual/ biennial herb	Root	Baldness	Adhikari <i>et al.</i> (2010)
<i>Rumex nepalensis</i> Spreng.	Nepal Dock	Amlyu/ Amlora/ Bhilmora/ Malori/ Jungli Palak	Perennial, grows to 1-2 m. It is in flower from May to June; Altitude- 80 m to 4200 m.	Leaves	Dysmenorrhoea, stomach ache colic, boils, cooling diuretic purgative, swelling of muscles scurvy	Adhikari <i>et al.</i> (2010)
<i>Rumex dentatus</i> L.	Sour dock/ toothed dock	Jungli Palak	Annual broad- leaved herb	Leaves	The leaves are diuretic, astringent and soothing irritation caused by <i>Urtica dioica</i> which often found near the <i>Rumex</i> .	Razzaq <i>et al.</i> (2015)
<i>Rumex hastatus</i> D. Don.	Arrowleaf Dock/ Yellow Sock/ Curled sock	Almuru/ Chilmora	Perennial broad- leaved herb	Leaves	Cuts; checks bleeding quickly The whole plant is ground and the paste is applied externally on wounds. Root decoction is administered orally in rheumatoid. Leaves juice is given in abdominal colic.	Pant and Sammant (2010), Ballabha <i>et al.</i> (2013), Sharma <i>et al.</i> (2013), Kumari <i>et al.</i> (2011)
Portulacaceae (1)						
<i>Portulaca oleracea</i> L.	Garden Purslane/	Pigweed/	Annual succulent	Leaves	Liver tonic	Adhikari <i>et al.</i>

	Common Purslane	Pursley	may reach 40 cm in height, taproot with fibrous secondary roots.			(2010)
Primulaceae (1)						
<i>Anagallis arvensis</i> ssp foemina (Syn. <i>Anagallis coerulea</i> L.)	Scorlet pimpernel/ Red pimpernel	Krishna neel	Annual prostrate broad leaved herb	Plant	The plant paste is used over boils. Juice of whole plant is administered orally in Mental problem.	Sharma <i>et al.</i> (2013) Kumari <i>et al</i> (2011)
Ranunculaceae (3)						
<i>Anemone obtusiloba</i> D. Don	Himalayan anemone	Kanchphool	Tufted habit perennial with a short rhizomatous rootstock and stems up to 15 cm tall with yellow flowers.	Root	Diarrhoea	Phondani (2011)
<i>Ranunculus arvensis</i> L.	Creeping buttercup/ Bird foot buttercup	Ranunculus/ Chambul	Annual broad-leaved herb	Whole plant	Fever, Asthma, Skin disease	Phondani (2011)
<i>Thalictrum foliolosum</i> D.C.	Meadow-rue	Meadow-rue	Tall perennial rigid herb indigenous to the temperate Himalayas (5000-8000 ft).	Whole plant	(1) Paste of plant is used in skin disease. (2) Root is used in Jaundice.	Kumari <i>et al</i> (2011)
Rosaceae (6)						
<i>Duchesnea indica</i> (Andr.) Focke Synonyms <i>D. fragarioides</i> , <i>Fragaria indica</i>	Mock Strawberry/ Indian strawberry	Bankasa	<i>Duchesnea indica</i> is an evergreen perennial / Herb	Leaf	Diarrhoea and leucorrhoea	Pala <i>et al.</i> (2010)
<i>Prinsepia utilis</i> Royle	Himalayan Cherry Prinsepia/ James Prinsep/ Scholar	Bhikal/ Bhainkal/ Bekkra/ Bhekar/ Cherara/ Kangore	Deciduous shrub growing up to 3.5 m.	Oil	Rubefacient and is externally in rheumatism	Sharma <i>et al.</i> (2013)
		Bhekal	Shrub	Seed, Root	Seed oil warmed and massaged twice a day in arthritic pain. The paste of root is applied for healing of cuts, wounds and boils. Seeds oil edible, Plant used in rituals and religious ceremonies.	Dangwal <i>et al.</i> (2010)
				Fruit, Seed	Ripe fruits eaten. Seed oil used for massaging rheumatic joints.	Phondani <i>et al.</i> (2010)
<i>Rosa macrophylla</i> Lindl	Bangulab	Bangulab	Temperate region and perennial shrub	Flower	Fresh juice flower is dropped in Earache.	Kumari <i>et al</i> (2011)
<i>Rosa moschata</i> Herrm.	Jangali gulab	Jangali gulab	Temperate region and perennial shrub	Plant	Plants are used in diarrhoea, eye disease and asthma.	Parihaar <i>et al.</i> (2014)
<i>Rubus biflorus</i> Buch. Ham. Ex Sm.	Hisalujangali	Hisalujangali	Perennial shrub	roots	Roots are used in diarrhoea.	Parihaar <i>et al.</i> (2014)
<i>Rubus ellipticus</i> Smith.	Yellow Himalayan raspberry	Hishalu	Thorny fruiting shrub that originates from South Asia, Shrub growing to 4.5 m	Fruits	Juice of fruits is administered orally in cholera.	Kumari <i>et al.</i> (2011), Negi and Subramaniam (2015)
		Hishalu	Shrub	All parts	Whole plant used in Diarrhoea.	Kapkoti <i>et al.</i> (2014)
		Hishalu	Shrub	Plant	Plant is used in diarrhoea, cough, fever and dysentery.	Parihaar <i>et al.</i> (2014)
Rubiaceae (2)						
<i>Galium aparine</i> L.	Catch weed/ Bedstraw	Catch weed/ Bedstraw	Annual broad-leaved herb	Whole plant	Whole plant is grinded in water, used in worm infestation.	Kumari <i>et al.</i> (2011)
		Kura	Annual broad-leaved herb	Plant	Plant paste is used in eczema, swelling, kidney	Parihaar <i>et al.</i> (2014)

					stone and irritation.	
<i>Rubia cordifolia</i> L.	Manjistha, Manjith, Common madder, Indian madder	Majitho	Evergreen perennial climber, grow to 1.5 m in height.	Root, leaves	Ulcers, inflammations, skin diseases	Rai (2003)
Saxifragaceae (1)						
<i>Berginia ciliata</i> (Haw.) Sternb. Revis. Saxifrage. Suppl. <i>Berginia ligulata</i> (Wall.) Engl.	Pashanbheda	Pashanbheda	Mostly found in temperate Himalayas at 1500 m altitude	Plant roots	Stone in kidney or urinary tract.	Singh (2008)
Scrophulariaceae (1)						
<i>Verbascum thapsus</i> L.	Wooly Mullein seed head	Great mullein/ common mullein/ Jakhmvir	Hairy biennial plant grow to 2 meters tall or more. Small yellow flowers are densely grouped on tall stem, which grows from a large rosette of leaves.	Leaf, Inflorescence	(1) Leaf paste is rub on chest to relieve pain due to cold. (2) Inflorescence smokes used in bronchitis	Kumari <i>et al.</i> (2011)
Solanaceae (4)						
<i>Datura metel</i> L.	Thorn apple	Datura	An erect, soft- stemmed shrub usually less than 1 m tall.	Various parts of the plant (leaves, seeds, roots and fruits) are used in medicine for different purposes	Epilepsy, rheumatism	Sharma <i>et al.</i> (2013), Phondani <i>et al.</i> (2010)
<i>Datura stramonium</i> Linn.	Jimson weed, Devil's snare	Dhatura	Erect annual herb forms a bush up to 60 to 150 cm tall	Leaves	Fresh leaves tied on wounds for early cure. Dried leaves smoked for intoxication.	Sharma and Sood (2013)
	Tora apple, jimson weed		Herb		Asthma, burns, ulcers, sinus infection, headaches, sores	Mitchell and Ahmad (2006)
<i>Solanum nigrum</i> L.	Black nightshade	Makoya	Erect branched annual or biennial broad-leaved herb	Leaves, whole plant	Juice of whole plant is administered orally in Fever. Paste made of leaves, black pepper and goat's milk is applied over boils and pimples. Cooked leaves also given in skin diseases.	Kumari <i>et al.</i> (2011)
			Herb	All part	Decoction of plant given in swelling.	Kaploti <i>et al.</i> (2014)
		Makoi	Herb	Plant	Decoction of leaves is used in rabies, liver and skin diseases. Fruits are used to treat eye diseases, dysentery and fever.	Parihaar <i>et al.</i> (2014)
<i>Solanum surattense</i> Burn.f. (S. <i>xanthocarpum</i> Schrad & Wendl.)	Yellow-berried Nightshade/ Choti Katheri/ Kantkari/ Kateli	Thai eggplant/ Kantakari/ Kateli/ Katai/ Ringani	Perennial broad- leaved herb	Fruit	Stimulant, expectorant, diuretic, laxative, febrifuge	Sharma <i>et al.</i> (2013)
Smilacaceae (1)						
<i>Smilax aspera</i> L.	Rough Bindweed/ Sarsaparille	Rough Bindweed/ Sarsaparille	Creeping or climbing evergreen having	Root	Paste of root is given orally with water in case of Diarrhea.	Kumari <i>et al.</i> (2011)

			spiny zigzag stems with shiny leaves, Perennial			
Urticaceae (1)						
<i>Urtica dioica</i> Roxb.	Stinging nettle/ common nettle	Bichhu-Booti/ Sisnu/ Kandeli/ Bichhughas	Herbaceous, perennial, 1 to 2 m tall in the summer and dying down to the ground in winter.	Leaves and roots	Skin diseases, baldness and boils,	Pant (2010), Singh and Rawat (2011), Singh <i>et al.</i> (2014)
				Five fresh leaves milled and mixed with 1gm chili powder and made into a paste without water	Rabies	Phondani <i>et al.</i> (2010)
		Bichhu ghas	Shrub	All parts	Applied in body cramp and external pains.	Kapoti <i>et al.</i> (2014)
Valerianaceae (1)						
<i>Valeriana jatamansi</i> Jones (Syn. <i>V. wallichii</i> DC)	Indian Valerian/ Muskabala/ Sugandhbala/ Tagar	Sumaya/ Tagara/ Jatamansi	Perennial herb, 0.5-2 ft tall. Jatamansi is found throughout the Himalayas at altitude of 1500-3600 m.	Root, Leaf, Flower	Hysteria, hypochondria, nervous unrest and emotional troubles.	Phondani <i>et al.</i> (2010)
					Dysentery (100gm of Dub root powder is mixed with 5gm of <i>Valeriana jatamansi</i> powder and 5gm of sugar which is drunk with 1 glass of water)	Kumari <i>et al.</i> (2011)
			Herb	Root	Root dried in shade, powdered and given approximately ½ teaspoonfuls twice a day, in morning and at night for 2-3 months in the treatment of hysteria and urinary disorders. The plant is used as substitute of <i>Nardostachys jatamansi</i> by the inhabitants of Tehri. Plant used in rituals and various religious ceremonies.	Dangwal <i>et al.</i> (2010)
			Herb	Rhizomes	Rhizome is used for fever, stomach and urinary disorders. Rhizome is aromatic, antispasmodic and carminative	Razzaq <i>et al.</i> (2015)
Verbenaceae (1)						
<i>Lantana camara</i> L.	Wild sage/ Lantana/ Largeleaf lantana	Kuri	Perennial woody shrub	Leaf	Ringworm, itching, skin diseases, malaria, rheumatism germicidal, insecticidal	Adhikari <i>et al.</i> (2010)
		Kuri	Shrub	Plant	Leaves are used in healing wounds, cuts, ulcer and eczema.	Parihaar <i>et al.</i> (2014)
Zingiberaceae (1)						
<i>Hedychium spicatum</i> Sm. In A. Rees	Vanhaldi/ Kapur kachri/ Spiked Ginger	Vanhaldi/ Kapur kachri	Hardy perennial, grows up to 1 m	Rhizome	Used in asthma and with saw dust of deodar used in tuberculosis.	Nazir <i>et al.</i> (2010)

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Table 2: Family of Ethnomedicinal Plants and Their Representation from the Study Area

S. No	Family	No. of Plant Species	Proportion (%)	Remarks	
1	Asteraceae	17	19.1	Dicotyledonous	-
2	Rosaceae	6	6.74	Dicotyledonous	
3	Fabaceae	4	4.49	Dicotyledonous	-
4	Lamiaceae	4	4.49	Dicotyledonous	-
5	Poaceae	4	4.49	-	Monocotyledonous
6	Polygonaceae	4	4.49	Dicotyledonous	-
7	Solanaceae	4	4.49	Dicotyledonous	-
8	Amaranthaceae	3	3.37	Dicotyledonous	-
9	Apiaceae	3	3.37	Dicotyledonous	
10	Berberidaceae	3	3.37	Dicotyledonous	-
11	Convolvulaceae	3	3.37	Dicotyledonous	-
12	Hypericaceae	3	3.37	Dicotyledonous	-
13	Ranunculaceae	3	3.37	Dicotyledonous	-
14	Araliaceae	2	2.25	Dicotyledonous	-
15	Commelinaceae	2	2.25	Dicotyledonous	-
16	Oxalidaceae	2	2.25	Dicotyledonous	-
17	Plantaginaceae	2	2.25	Dicotyledonous	-
18	Rubiaceae	2	2.25	Dicotyledonous	-
19	Cruciferae	1	1.12	Dicotyledonous	-
20	Cannabaceae	1	1.12	Dicotyledonous	-
21	Caryophyllaceae	1	1.12	Dicotyledonous	-
22	Chenopodiaceae	1	1.12	Dicotyledonous	-
23	Cucurbitaceae	1	1.12	Dicotyledonous	-
24	Cyperaceae	1	1.12	-	Monocotyledonous
25	Fumariaceae	1	1.12	Dicotyledonous	-
26	Papaveraceae	1	1.12	Dicotyledonous	-
27	Plumbaginaceae	1	1.12	Dicotyledonous	-
28	Portulacaceae	1	1.12	Dicotyledonous	-
29	Primulaceae	1	1.12	Dicotyledonous	-
30	Saxifragaceae	1	1.12	Dicotyledonous	-
31	Scrophulariaceae	1	1.12	Dicotyledonous	-
32	Smilacaceae	1	1.12	Dicotyledonous	-
33	Urticaceae	1	1.12	Dicotyledonous	-
34	Valerianaceae	1	1.12	Dicotyledonous	-
35	Verbenaceae	1	1.12	Dicotyledonous	-
36	Zingiberaceae	1	1.12	Dicotyledonous	-

